Lycianthes manantlanensis (Solanaceae), a New Species from Mexico

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ABSTRACT. *Lycianthes manantlanensis* is described as a new species from Mexico. *Lycianthes manantlanensis* is recognized by its glabrous, coriaceous, and shiny leaves, long slender pedicels at anthesis and in fruit, and minute calyx appendages. It is morphologically similar to *L. barbatula*, *L. geminiflora*, and *L. orogenes* and is here compared with them.

RESUMEN. Se describe e ilustra a *Lycianthes manantlanensis* como una especie nueva que crece en México. *Lycianthes manantlanensis* se reconoce por sus hojas glabras, coriáceas y brillosas; pedicelos largos y delgados en la antesis y fructificación y cáliz con pequeños apéndices. El taxón propuesto es morfológicamente similar a *L. barbatula*, *L. geminiflora* y *L. orogenes* con las cuales se compara.

Key words: Jalisco, *Lycianthes*, Mexico, Solanaceae.

An inventory of the family Solanaceae for the flora of Jalisco, in western Mexico, is under way (Rodríguez & Vargas, 1994; Vargas & Rodríguez, 1993, 1995). In the process, we found some morphologically unfamiliar specimens that we describe as a new species.

Lycianthes manantlanensis A. Rodríguez & O. Vargas, sp. nov. TYPE: Mexico. Jalisco: Mpio. Cuautitlán de García Barragán, Majada de las Avellanas, comunidad indígena de Cuzalapa, 3–4 km al NNW de El Durazno, 800–1000 m, 6 Nov. 1995 (fl), *R. Cuevas, E. Sánchez & F. J. Santana 5009* (holotype, IBUG; isotypes, ENCB, MEXU, MO, WIS, ZEA). Figure 1.

Frutex vel arbor parva 1–6 m alta, caulibus teretibus glabris; sympodia bifoliata geminata anisophylla; lamina foliorum maximorum coriacea glabra obovata vel elliptica 4.2–12 cm longa 2.4–4.2 cm lata, apice acuto vel acuminato, basi oblique cuneata vel cuneata interdum decurrenti, petiolo gracili glabro 0.7–2 cm longo; folia minora coriacea, glabra, obovata vel elliptica 2.5–6 cm longa 1.3–2.7 cm lata, apice acuto vel acuminato, basi oblique cuneata vel cuneata interdum decurrenti, petiolo gracili glabro 2–4 mm longo; inflorescentia axillaris fasciculata, 3–5 floribus; gemmae globosae vel ovoideae, 2–4 mm latae; pedicellus sub anthesi gracillimus deflexus vel erectus 2–3.5 cm longus glaber; calyx campanulatus 2 mm longus glaber truncatus prope apicem 5 minutis appendicibus < 0.5 mm longis instructus; corolla late campanulata alba 1.2–2 cm diametro, lobis sub anthesi reflexis; stamina subaequalia, filamentis glabris 0.5–1 mm longis, antheris 2.5–3 mm longis oblongis; ovarium glabrum; stylus glaber 6–8 mm longus; stigma clavatum; bacca globosa, viridis 5 mm diametro; pedicellus fructifer lignosus erectus 2–3.5 cm longus.

Shrub or small tree, 1–6 m tall; stems terete, glabrous. Sympodia bifoliate, geminate, the leaf pair markedly anisophyllous. Branches glabrous or with some simple uniseriate trichomes less than 0.5 mm long. Leaves coriaceous, flat, glabrous and shiny on both sides; major leaves 4.2–12 × 2.4–4.2 cm; lamina obovate to elliptic, the apex acute or acuminate, the base cuneate, sometimes oblique; petioles 0.7–2 cm long; minor leaves not differing from the major ones in shape, 2.5–6 × 1.3–2.7 cm; petioles 2–4 mm long. Inflorescences axillary, fasciculate, 3–5-flowered. Pedicels slender, glabrous, erect or deflexed at anthesis, 2–3.5 cm long. Buds globose to ovoid, 2–4 mm wide. Calyx campanulate, truncate, glabrous, 2 mm long, with five minute knob-like appendages below the erose margin, less than 0.5 mm long. Corolla white, campanulate, 1.2–2 cm diam., the lobes minutely pilose at the tips and along margins. Stamens subequal in length; filaments 0.5–1 mm long, glabrous; anthers 2.5–3 mm long. Ovary glabrous. Style glabrous, 6–8 mm long. Stigma clavate. Fruit globose, green, 5 mm diam.

Distribution. *Lycianthes manantlanensis* has been collected in the Sierra de Cacoma, Jalisco, at the western end of the Trans-Mexican Volcanic Belt. It is also known from the Sierras de Manantlán and Coalcomán in the Sierra Madre del Sur, as well as the states of Oaxaca and Chiapas in southern Mexico.

Etymology. The name of the species refers to the Sierra de Manantlán, where this species is common.

Habitat. *Lycianthes manantlanensis* grows in the transition zone between the tropical subdeci-

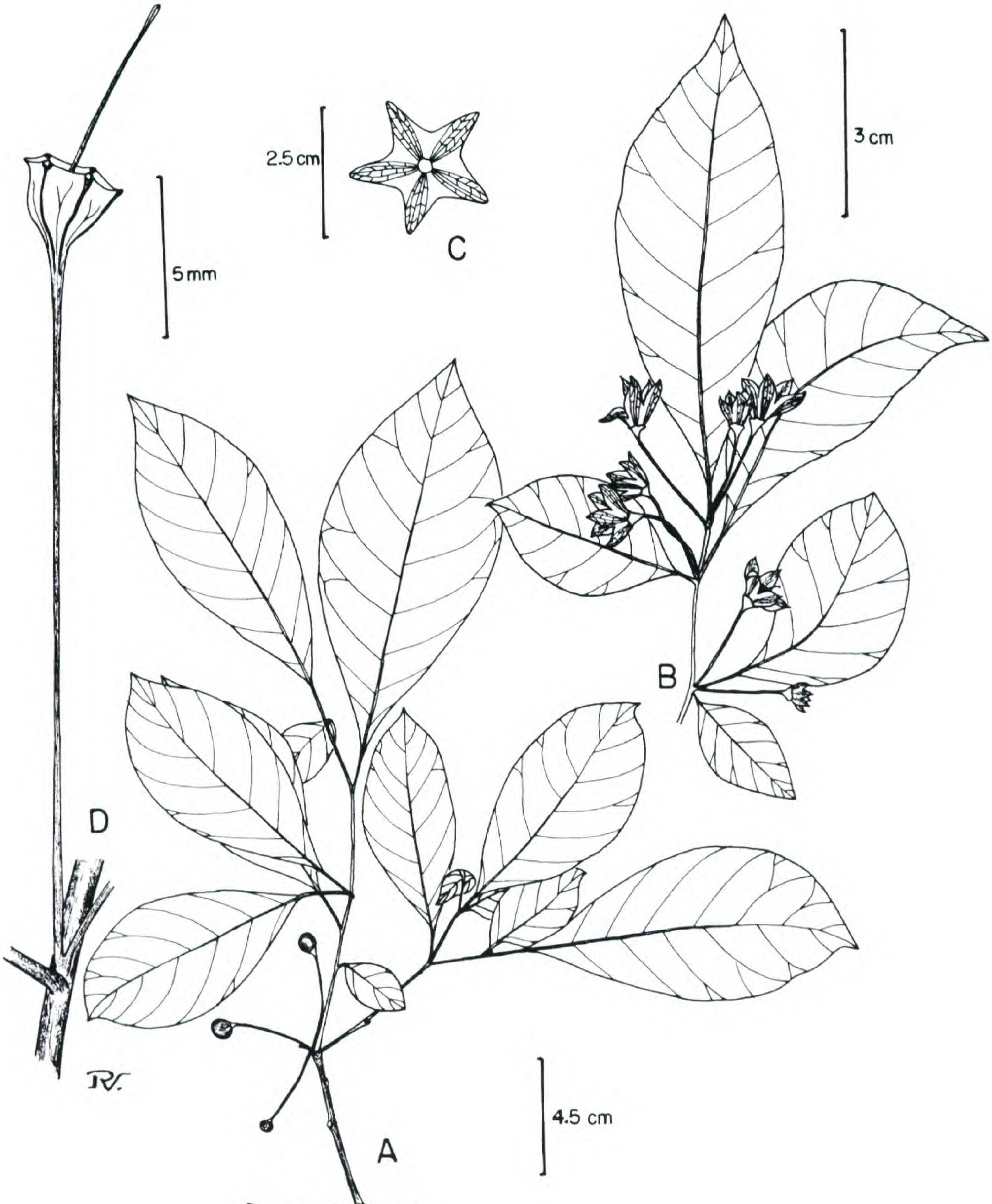


Figure 1. *Lycianthes manantlanensis* A. Rodríguez & O. Vargas. —A. Habit (*R. Cuevas et al. 6554*). —B. Detail of fertile branch showing axillary inflorescences (*R. Cuevas et al. 6274*). —C. Detail of corolla (*R. Cuevas et al. 5009*). —D. Detail of pedicel and calyx (*R. Cuevas et al. 5009*).

duous forest and the cloud forest. It grows in association with *Ardisia revoluta* Kunth, *Inga eriocarpa* Bentham, *Magnolia iltisiana* A. Vázquez, *Populus guzmanantlensis* A. Vázquez & Cuevas, *Quercus insignis* M. Martens & Galeotti, and *Siparuna andina* (Tulasne) A. DC., 800–1150 m. It also grows in the cloud forest where it is associated with *Balmea stormae* Martínez, *Beilschmiedia pendula* (Swartz) Hemsley, *Calatola laevigata* Standley, *Capparis mollicella* Standley, *Cedrela odorata* L., *Cinnamomum pachypodum* (Nees) Kostermans, *Coccoloba barbadensis* Jacquin, *Dendropanax ar-*

Table 1. Comparison of *Lycianthes manantlanensis* and its morphologically related species.

Characters	Taxa			
	L. manantlanensis	*L. barbatula*	*L. geminiflora*	*L. orogenes*
Pubescence in young parts	Glabrate	None	Puberulent	None
Leaf pubescence	None	Tufts in vein axils or along middle vein	Glabrous or puberulent in veins and margins	None
Leaf	Geminate, anisophyllous	Geminate, different in size and shape	Geminate, anisophyllous	Geminate, different in size and shape
Major leaf form	Obovate to elliptic	Elliptic to elliptic-oblong	Lanceolate to elliptic, asymmetric	Elliptic to lanceolate-elliptic
Minor leaf form	Obovate to elliptic	Ovate to orbiculate	Lanceolate to elliptic, asymmetric	Ovate to elliptic
Leaf texture	Coriaceous	Coriaceous	Smooth and not coriaceous	Coriaceous
Pedicels at anthesis	1.3–3.5 cm long	2–2.5 cm long	0.5–2 cm long	1.3–2.5 cm long
Calyx	Campanulate, 2 mm long, margin erose, with 5 minute knob-like appendages	Broadly campanulate, 2–2.5 mm long, 5 (7) appendages subequal, linear, 2–3 mm long	Campanulate, 1–1.5 mm long, margin erose, without appendages	Campanulate, 2.5–3 mm long, margin erose, 5 appendages subequal, linear, 1–1.5 mm long
Corolla	12–20 mm wide	12 mm wide	12–15 mm wide	7.5–8 mm wide
Corolla lobes	Ovate, 4–6 mm long	Lanceolate, 4 mm long	Lanceolate, 8 mm long	Lanceolate, 2 mm long
Fruit	Green, 5 mm diam.	White, 10 mm diam.	Red, 7–10 mm diam.	Green, 10 mm diam.

boreus (L.) Decaisne & Planchon, *Guarea glabra* Vahl, *Juglans major* (Torrey) A. Heller, *Licaria triandra* (Swartz) Kostermans, *Malvaviscus arboreus* Cavanilles, *Nectandra glabrescens* Bentham, *Picrasma mexicana* Brandegee, *Prunus serotina* Ehrhart subsp. *capuli* (Cavanilles) McVaugh, *Robinsonella speciosa* Fryxell, *Trichillia americana* (Sessé & Moçiño) Pennington, *Trophis racemosa* (L.) Urban, and *Urera caracasana* (Jacquin) Grisebach, 1450–1650 m. Occasionally, it has been collected in *Abies* forest, ca. 2000 m elevation.

Common name. Naranjillo.

Discussion. *Lycianthes manantlanensis* is recognized by its glabrous, coriaceous, and shiny leaves, long slender pedicels at anthesis and fruit, and minute knob-like calyx appendages. The calyx appendages are small and difficult to distinguish, but they emerge from a little below the erose margin. The calyx then splits irregularly and forms unequal lobes with corky-scarred margins. *Lycianthes manantlanensis* shares its coriaceous leaves with *L. barbatula* Standley & Steyermark and *L. orogenes* Standley & Steyermark. However, it differs from them by lacking conspicuous calyx appendages and other aspects seen in Table 1. Likewise, *L. manantlanensis* resembles *L. geminiflora* (M. Martens & Galeotti) Bitter in shape and size of the calyx. The pedicel length, however, is always longer in *L. manantlanensis*. In addition, the leaves in *L. geminiflora* are puberulent, not coriaceous and asymmetric.

Paratypes. MEXICO. **Jalisco:** Ayutla, near Santa Mónica, ca. 20°N, 104°30′W, 1950–2050 m, 12–13 Nov. 1952 (fl), *R. McVaugh & J. Sooby, Jr. 14060* (MICH); Casimiro Castillo, por la cañada El Tecolote, 19°36′49″N, 104°18′56″W, 1650 m, 27 Oct. 1998 (fl), *R. Cuevas, L. Guzmán & J. Aragón 6246* (ZEA), 1550 m, 29 Nov. 1998 (fl), *R. Cuevas, L. Guzmán & J. Aragón 6274* (ZEA), 1550 m, 30 Nov. 1998 (fl), *R. Cuevas, L. Guzmán & J. Aragón 6294* (ZEA), 1450 m, 13 Dec. 1998 (sterile), *R. Cuevas, L. Guzmán & J. Aragón 6380* (ZEA), 1450 m, 14 Dec. 1998 (fl), *R. Cuevas, L. Guzmán & J. Aragón 6390* (ZEA), 14 Dec. 1998 (sterile), *R. Cuevas, L. Guzmán & J. Aragón 6400* (ZEA); en la cañada de La Naranjera, cerca del árbol de aguacate, 19°37′25″N, 104°20′49″W, 1150 m, 22 Feb. 1999 (fr), *R. Cuevas, L. Guzmán & J. Aragón 6554* (ZEA), 1150 m, 24 Feb. 1999 (sterile), *R. Cuevas, L. Guzmán & J. Aragón 6589* (ZEA). **Michoacán:** Distrito de Coalcomán, 1400 m, *G. B. Hinton et al. 15942* (MICH). **Oaxaca:** Villacorzo, Paraje La Botella, ejido Plan de Ayala, 1420 m, 7 Jan. 1999 (fr), *R. Ramírez-Camacho 41* (CHAP, MEXU). **Chiapas:** Monte Ovando, 14–18 Nov. 1939 (fl), *E. Matuda 3981* (MEXU, NY); Santa María Chimalapa, cerro Salomón, ca. 2 km WNW del cerro Guayabitos, al N de la cima, ca. 43 km en línea recta al N de San Pedro Tapanatepec, 16°45′N, 94°11′W, 27 Oct. 1986 (fr), *S. Maya 4129* (CHAPA, MEXU).

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